



PIECE

OF THE

PUZZLE

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state law requires authorization to place materials or structures in the Great Lakes

this means once the decision to place materials to slow erosion is made, the landowner must get a state permit to proceed.

WDNR is one piece of the bigger picture

The permit process is in place to allow the state to ensure that the project will not impact public rights and interests

this means for projects in public water the state must review fish & wildlife and water quality data and assess navigation patterns, habitat and similar features of the site to make sure the needs of the project balance with the impacts to public waters

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this means once the decision to place materials to slow erosion is made, the landowner must get a state permit to proceed.

✓ In an emergency, structures may be at risk

✓ will allow temporary material to be placed while designing & seeking approval for a permanent solution

Where the temporary material will be placed

How the temporary material will be placed

The **type** and **amount** of temporary **materials** that will be used

Temporary Emergency Actions

The use of materials for temporary toe protection may not be 100% effective.

there are many factors that contribute to erosion like surface water runoff, groundwater, bluff material and the angle of the bluff

If the material used for **temporary** protection **cannot be** incorporated into a **final** design, it must be removed, which may increase the  of final installation

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The department recommends hiring a Professional Engineer to properly design shore protection structures.

Guidelines

Allowed materials

rock, stone, or heavy concrete be clean (no re-bar, etc.)

large, non-flat, angular, pieces so they can naturally interlock

large blocks with a flat surface may increase wave reflection and result in further bluff instability

Concrete rubble or construction site debris should not be used for toe protection

These materials may **crack and break apart easily** creating lighter & smaller pieces that may not be able to resist wave forces which can **create spaces for the waves to erode behind**

al will be allowed on the bluff face

ts for placement of temporary
r the base of the slope

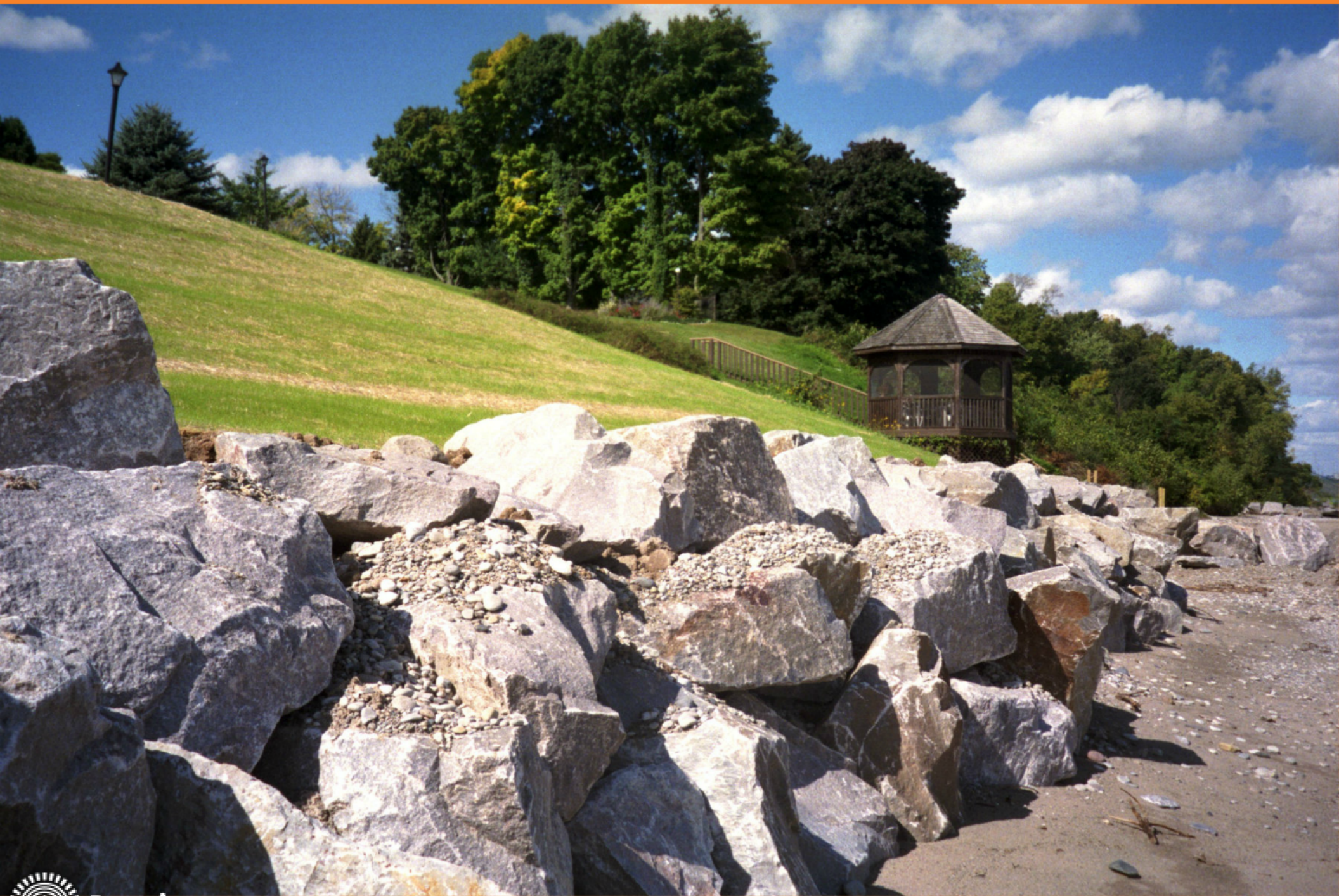
Location & size

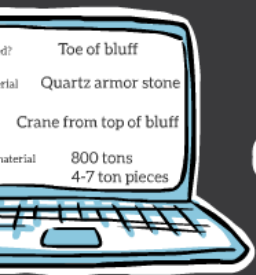
The temporary material should not be placed higher than 5 feet from the base of the bluff

This will ensure that if the bluff is unstable additional weight will not make matters worse

The temporary material should not extend more than 10 feet waterward of the base of the bluff

This will minimize the amount of lakebed filling reducing the potential for fish & wildlife habitat loss





or

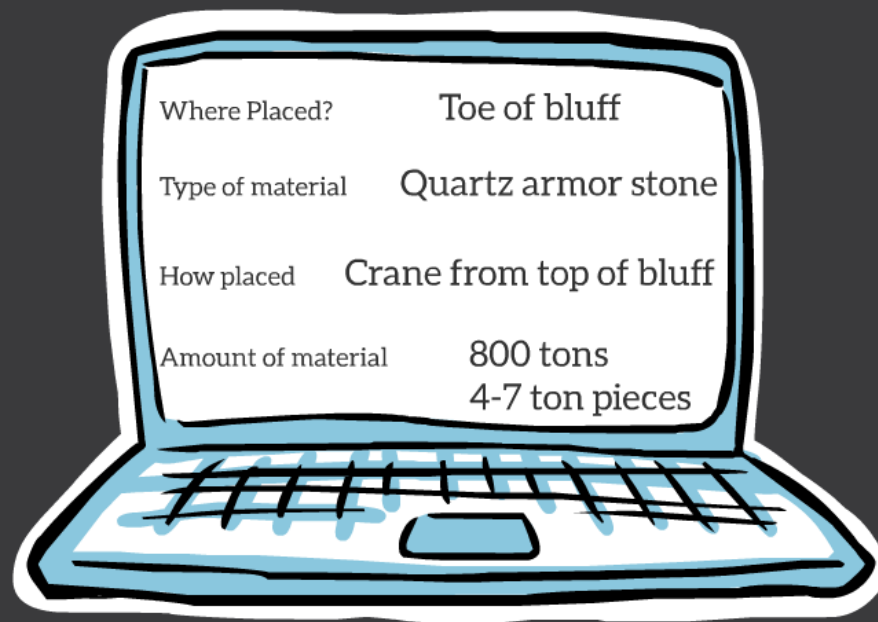


example

how to start the Process

letter from state





or



Where Placed?

Toe of bluff

Type of material

Quartz armor stone

How placed

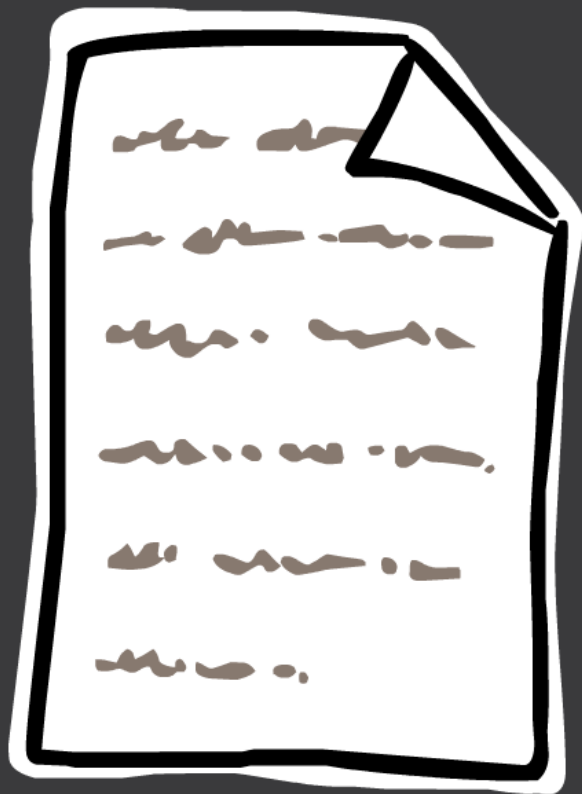
Crane from top of bluff

Amount of material

800 tons

4-7 ton pieces

letter from state



start work



Successful Policy?

15 landowners have received
temporary authorization letters

15 landowners have received
temporary authorization letters

2 landowners on path
to final design
approval

2 enforcement actions
= voluntary restoration



to final design
approval

Final Project Considerations

DNR is finalizing tool box
for landowners



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for landowners



dnr.wi.gov

Business

Licenses & Regulations

Recreation

Search or Keywords

Search

"Great Lakes Erosion Control"



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